

REMARKS

This application was filed with a claim of foreign priority under 35 U.S.C. §119(a)–(d) based on the following Japanese Patent Applications: 2002-334236 filed November 18, 2002; 2002-334238 filed November 18, 2002; 2002-334240 filed November 18, 2002; and 2003-068370 filed March 13, 2003. Certified copies of the priority documents have not yet been filed; however, acknowledgment of the claim of foreign priority is respectfully requested.

Minor amendments have been made to the specification. No new matter has been added.

Claims 1 to 36 remain in the application. Claims 7 to 36 stand withdrawn as being drawn to a non-elected invention/species. More particularly, the grouping of claims in the Office Action mailed October 6, 2005, was as follows:

Group I: Claims 1–33, drawn to a surface treatment apparatus.

Group II: Claims 34–36, drawn to an image forming apparatus.

Applicants elected the claims of Group I, without traverse. The claims of Group I were further subject to an election of species as follows:

Species 1: Claims 1–6.

Species 2: Claims 7–25.

Species 3: Claims 26–33.

Applicants elected Species 1; however, Applicants would like clarification of the requirement for election of species. The Examiner identified the species only by grouping of claims with no reference to the drawing figures; therefore, it is not entirely clear what the Examiner considers to be the patentably distinct species. It is noted that Group I claims have only one independent claim, specifically claim 1. It is further noted that claims 2, 7, 14, and 26 are directly dependent on claim 1. Clearly, claim 1 must be considered a generic claim as it is common to all the species identified by the Examiner. The claims of Species 1 include, in addition to claims 1 and 2, claims 3–6 which are either directly or indirectly dependent on claim 2. The claims of Species 2, may be divided into two groups; claims 7–13 and claims 14–25. Claims 8–13 are either directly or indirectly dependent on claim 7, while claims 15–25 are either directly or indirectly dependent on claim 14. The

claims of Species 3 include claims 27–33 which are either directly or indirectly dependent on claim 26.

In an effort to understand the Examiner's election of species requirement, Applicants acknowledge that several species are in fact disclosed in the drawings. For example, Figure 4 shows an example of an image recording apparatus for inkjet comprising the surface treatment apparatus 25 of the present invention, and Figures 8 and 9 show the image recording apparatus for inkjet with the addition of a contact selecting unit 13. Figure 5 shows an example of an image recording apparatus for hot developing comprising the surface treatment apparatus 25 of the present invention, and Figure 10 shows the image recording apparatus for hot developing with the addition of a contact selecting unit 13. Figure 6 shows an example of an image recording apparatus for silver halide photography comprising the surface treatment apparatus 25 of the present invention, and Figure 11 shows the image recording apparatus for silver halide photography with the addition of a contact selecting unit. Figure 7 shows an example of an image recording apparatus for electrophotography comprising the surface treatment apparatus of the present invention 25. However, it will be noticed that in all these species of image recording apparatuses, the surface treatment apparatus 25 is a common element and is similarly constructed. Compare, for example, Figures 4, 5, 6 and 7 where like reference numerals indicate the same or similar elements.

It is submitted that only one species of surface treatment apparatus (Group I claims), although several species of image recording apparatus (Group II claims) are disclosed. Applicants therefore request that the Examiner clarify his requirement for election of species and, if he maintains that there are in fact patentably distinct species, explain (1) why claim 1 is not generic and (2) what are the species by reference to the drawings.

Further to the Examiner's consideration, claim 1 is read on the drawings as follows:

A surface treatment apparatus comprising:

a sheet heating unit which heats a sheet having at least a base, a thermoplastic resin layer, and an image recording layer on the base;

a contact member for transferring a surface quality thereof to a surface of the image recording layer and an interface of the thermoplastic resin layer facing the image recording layer of the sheet; and

a sheet cooling unit which cools the sheet while in contact with the contact member.

The surface treatment apparatus 25 is shown in Figures 4, 5, 6, 7, 8, 9, 10, and 11.

The sheet heating unit 21 is shown in Figures 4, 5, 6, 7, 8, 9, 10 and 11. The sheet 10 (also shown in Figures 4, 5, 6, 7, 8, 9, 10 and 11) is shown in more detail in Figures 1 and 2 and has a base 1, a thermoplastic resin layer 3, and an image recording layer 5 on the base.

The contact member may be a texture sheet, a roller or endless belt (page 16, line1). In Figures 4, 5, 6 and 7, the contact member is endless belt 15. In Figures 8, 9, 10 and 11, the contact member is a texture sheet. The surface quality is transferred to the image recording layer 5 and the interface 3a (see also Figure 3) of the thermoplastic resin layer 3 facing the image recording layer 5 of the sheet 10.

The sheet cooling unit 17 is shown in Figures 4, 5, 6, 7, 8, 9, 10, and 11 and cools the sheet while in contact with the contact member.

From the foregoing, it will be appreciated that there may be arguably more than one species of surface treatment apparatus depending on the nature of the contact member; however, the claims as divided by the Examiner have no relation to any identifiable species of the surface treatment apparatus. Thus, clarification of the election of species requirement is in order and respectfully requested. In the alternative, the Examiner is requested to withdraw his requirement for election of species and examiner all the Group I claims on their merits.

Claims 1 to 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over European Patent Application No. EP 1 407 893 A2 to Janosky et al. in view of U.S. Patent No. 5,764,262 to Wu et al. This rejection is respectfully traversed for the reason that the combination of Janosky et al. and Wu et al. does not suggest

or otherwise teach the claimed invention.

The present invention is directed to a surface treatment apparatus comprising: a sheet heating unit which heats a sheet having at least a base, a thermoplastic resin layer, and an image recording layer disposed on the base in that order; a contact member for transferring a surface quality thereof to a surface of the image recording layer and an interface of the thermoplastic resin layer facing the image recording layer of the sheet; and a sheet cooling unit which cools the sheet while in contact with the contact member (see Claim 1).

Janosky et al. disclose a method and apparatus for producing a selectable gloss finish on ink jet prints wherein a clear protective plastic laminate is applied to the surface of the image, the laminate is heated to soften the laminate, a surface texture of an endless belt is impressed into the softened laminate, and the laminate is maintained in contact with the belt for a cooling period so as to permit a cold separation of the laminate from the belt (see Janosky et al., Abstract and FIG.1). Notice first that Janosky et al. apply a plastic laminate over the ink jet printed image. There is no transfer of surface quality to the image recording layer as recited in claim 1. There is no transfer of surface quality to an interface of the thermoplastic resin layer facing the image recording layer as recited in claim 1. The processes, and the apparatuses that perform those processes are entirely different. As the Examiner acknowledged in the Office Action, Janosky et al. fails to disclose a sheet having at least a base, a thermoplastic resin layer, and an image recording layer on the base (see Office Action, page 3).

Wu et al. disclose a process for providing durable images on a printed medium wherein a pigmented aqueous ink is printed onto a substrate bearing a hydrophilic thermoplastic polymer having cross-linking groups, then heating the printed image to encapsulate the pigment and cross-link the polymer (see Wu et al., Abstract). However, the sheet disclosed in Wu et al. has only the thermoplastic polymer coating or layer on the substrate. Therefore, the sheet disclosed by Wu et al. is structurally different from the sheet of the claimed invention which comprises at least a thermoplastic resin layer, and an image recording layer disposed on the base in this order. Wu et al. do not teach or suggest that the base bears two layers comprised of the thermoplastic polymer coating and an image

recording layer.

As has been discussed above, Wu et al. does not remedy the deficiency of Janosky et al. as noted by the Examiner, and thus the claimed invention cannot be achieved based on the teaching of Janosky et al. in view of Wu et al. Even if the sheet of Wu et al. is adapted in the method of Janosky et al. so that a laminate is applied thereto, the laminate is applied over the surface of the image. Therefore, such a sheet is still structurally different from the sheet of the claimed invention. Accordingly, the claimed invention is non-obvious over Janosky et al. in view of Wu et al.

Since claim 1 is clearly generic to any an all species of the surface treatment apparatus of Group I claims and is patentable for the reasons advanced above or, in the alternative, since the requirement for election of species was in error, it is requested that all of the claims of Group I be considered on their merits and allowed. Therefore, in view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1 to 33 be allowed, and that the application be passed to issue. On the condition, that claims 1 to 33 are allowed, Applicants authorize the cancellation of claims 34 to 36 by Examiner's Amendment.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



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